



Building Consistency Meeting

Residential

Date 10/01/2014 Recorder and minutes prepared by: Jay E. Garbus/Lon McSwain

Staff present: On File

Public present:

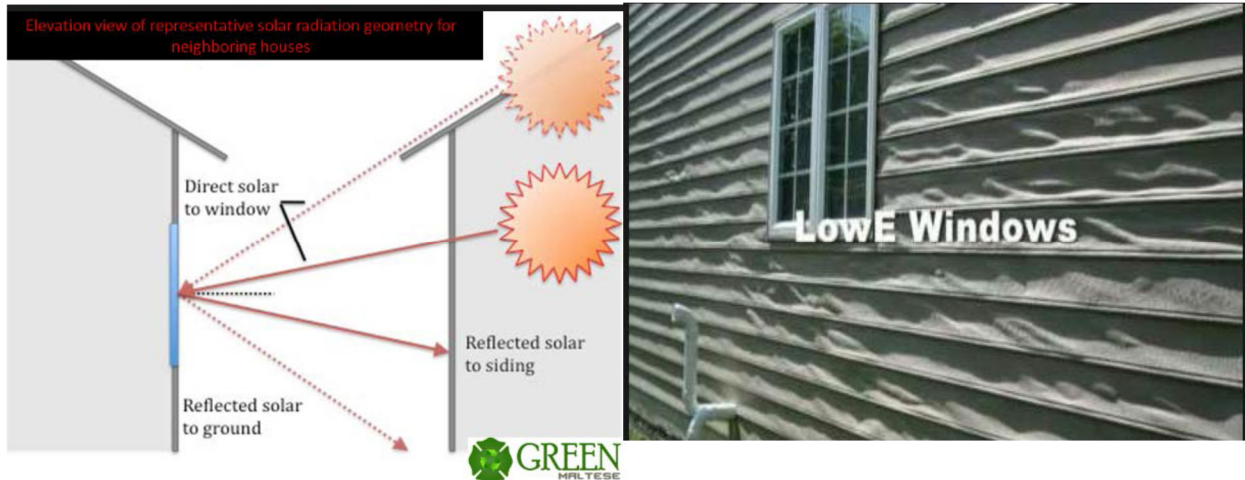
1. Update on emergency rule on Low e glass windows - The **Building Code Council** adopted **emergency rules** and filed proposed **temporary rules**:

2012 NC Energy Conservation and Residential Codes – Chapters 2, 4, 11, Low Emissivity Fenestration Product with a July 2, 2014 effective date. The Rules Review Commission declined the proposed temporary rules on September 18, 2014 and returned them to the Agency.

As a result, the emergency rules expired on September 22, 2014.

It is expected that the task force (joint Residential and Energy Committees along with certain stakeholders) will have a recommendation for a **permanent rules** for the December BCC meeting (March hearing, June adoption, August approval).

Barry Gupton, Secretary
NC Building Code Council
322 Chapanoke Road, Suite 200
Raleigh, NC 27603.



2. Can you build a 3 story home, plus habitable attic –

A. Can one build a 3 story home (Single-, two-family, townhome.), plus habitable attic *exceeding the Code Table parameters* with full engineered design using the NC Residential Code 2012 base line (Within number of stories, however, exceeding Table criteria.)?

-Yes, because it is engineered.



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B. Can one build a 3 story home (Single-, two-family, townhome.), *plus non-roofed, roof-top deck with stair tower access*, full engineered design, using the Residential Code 2012 Base line?

-Yes. Decks (habitable roofs) are not considered a story.

C. Does the habitable attic floor "count" or "not count" as a floor in regards to the IRC R602.10.3(2) Table which notes maximum two floors and a roof (Roof-top deck floor would also create this additional "floor" condition.)?

-The habitable attic in itself does not affect how to use Table R602.10.1.2(1) for example, but if you have significant exposed exterior wall area at the attic level the table will not be adequate to address lateral forces if the attic is above the 3rd floor.

D. Is a habitable attic to be fully in the roof line, with the exception of a dormer for egress opening, or, could one have a full wall accessing a roof-top deck and meet wind loads?

-Concerning an attic as completely within the space between the top story ceiling joists and the building rafters: The definition appears to indicate that an attic would not have exterior walls other than those required for dormers for required windows.

- A full wall is OK as long as the floor area is 50% or less than the floor below as stated in the definition for "Attic Story" in Section R202 and the mean roof height remains within the parameters of the NCRC or is engineered. Anything over 3-stories must comply with the 2012 NCBC.





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3. Does paper faced fiberglass insulation meet the requirements for Air Barrier material (ASTM E2178)?

AIR BARRIER MATERIAL. Material(s) that have an air permeability not to exceed 0.004 cfm/ft² under a pressure differential of 0.3 in. water (1.57 psf) (0.02 L/s.m² @ 75 Pa) when tested in accordance with ASTM E 2178.

Vapor Retarders

Perm Rating

Insulation Facing, Kraft	1.0
1/4 inch Plywood (douglas fir, exterior glue)	0.7
Insulation Facing, Foil Kraft Laminate	0.5
Vapor Retarder Latex Paint, 0.0031 inch thick	0.45
0.002 inch Polyethylene Sheet	0.16
0.004 inch Polyethylene Sheet	0.08
0.006 inch Polyethylene Sheet	0.06
Aluminum Foil 0.00035 inch thick	0.05
Aluminum Foil 0.001 inch thick	0.01

Not Vapor Retarders

Perm Rating

3/8 inch Gypsum Wall Board (plain)	50
4 inch Unfaced Mineral Wool	30
Typical Latex Paint, ~ 0.002 inch thickness	5.5 to 8.6
4.4 lb./100 ft. ² Asphalt Saturated Sheathing Paper	3.3
1/4 inch Plywood (douglas fir, interior glue)	1.9

Air barriers are not to be confused with **vapor barriers** or **water resistive barriers**. Each barrier have a different function to perform in a building assembly.

ASTM E96

Vapor barriers are materials used to slow or reduce the movement of water vapor through a material (water vapor is also transported by air leakage but this can be resolved by installing an air barrier). Vapor barrier materials are installed **on the warm side of the insulation in a building assembly**. The position of the vapor barrier in a building assembly will be determined based on the climatic conditions. In warm climates, it will be on the exterior and in cold climates, it will be on the interior.

ASTM D 779

Water resistive barriers are materials on the exterior of a building which are intended to resist liquid (bulk) water that has leaked, penetrated or seeped past the exterior cladding from absorbing into the exterior sheathing or concrete wall (depending on the application) and further into the wall assembly. Water resistive barrier materials can be mechanically fastened building wraps, fluid applied membranes, cellular plastic, self adhered, building paper or any other material that has been designed to resist liquid water. Water resistive barriers are combined with flashing and other supporting materials to ensure that there is a shingled effect to direct liquid water away from the exterior sheathing.



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ASTM E 2178

Air barrier materials are materials that are used anywhere in a building assembly to stop the movement of air into or out of the conditioned space (water vapor can also be transported by air). Air barriers can be mechanically fastened building wraps, self-adhered membranes, fluid-applied materials, insulating boardstock, non-insulating boardstock, spray polyurethane foam, poured concrete, metal, glass, and a host of other materials.

Air permeance is the amount of air that permeates through a material, whereas air leakage is the air that passes through holes or gaps. Any material that has a air permeance that is not greater than 0.02 L/(s·m²) at a pressure difference of 75 Pa (0.004 cfm/ft² at a pressure difference of 1.56 lb/ft²) when tested in accordance with ASTM E 2178 is a air barrier material.

4. Unfinished basement walls, air barrier?



FSK-25 flame resistant foil



Test Data	
ASTM E-96 Water Vapor Permeance	0.02
ASTM E-84/UL 723 Surface Burning	
Kraft Exposed	
Flame Spread Rating	25
Kraft Exposed	
Smoke Developed Rating	10
Foil Exposed	
Flame Spread Rating	5
Foil Exposed	
Smoke Developed Rating	0
FSKShield & Unfaced Batt	
Flame Spread Rating	15
Smoke Developed Rating	0
ASTM E-408	
Emissivity	0.03
ASTM D-828	
Tensile Strength	
lbs./in.	MD:40; XD:25
Scrim pattern	
per lineal inch	MD:2; XD:3
ASTM D-774	
Mullen Burst Strength	40 psi
ASTM C-1136	
Mold and Mildew	Pass
Dimensional Stability	
percent length change	0.25%
Low Temperature Resistance	
no cracking or delam	-40°F
High Temperature Resistance	
no cracking or delam	240°F
Puncture Resistance, Beach	
puncture units (Joules)	25

Barrier & Insulation Facing



P. O. Box 800
Auburndale, FL 33823
800-448-3401
863-965-1846



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With and without an air barrier-notable difference in heat loss as seen by thermal camera





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5. H1 warning note addition - Changes to the H1 or H Starting October 1st, 2014

Inspection Priority

Occasionally a contractor cannot be present to allow for access to an occupied home for an inspection. Code enforcement recognizes that sometimes homeowner access is needed. In the event a contractor cannot provide access to a homeowner occupied structure they can select one of the options listed below (homeowner contact # will also be required). This is not a guarantee of an inspection on the date requested, however; staff will contact the homeowner on this date and make arrangements by providing a window of time that works for all parties. The contractor should be aware that if homeowner is not present at the time of the arranged inspection window the failure still remains the contractor's responsibility and cannot be appealed if inaccessible. Contractors are encouraged to use auto-notification and provide access. Priority inspection and auto-notification guidelines are posted on our website at

www.meckpermit.com



Inspector needs to contact homeowner for access on date & time that works for both parties.

Homeowner Name:

Homeowner Phone:

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Inspection Priority

Occasionally a contractor cannot be present to allow for access to an occupied home for an inspection and that sometimes homeowner access is needed. In the event a contractor cannot provide access to a homeowner occupied structure they can select the Homeowner Access option listed below (homeowner best contact # is required). This is not a guarantee of an inspection on the date requested, however; staff will contact the homeowner on this date and make arrangements by providing a window of time that works for all parties. If, after several unsuccessful attempts to contact the homeowner, the inspection request will be cancelled and you will need to re-schedule the inspection. Contractors should be aware that if the homeowner is not present at the time of the arranged inspection window, then the failure still remains the contractor's responsibility and cannot be appealed if inaccessible. Contractors are encouraged to use auto-notification and provide access. Priority inspection and auto-notification guidelines are posted on our website at:

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Inspector needs to contact homeowner for access on date & time that works for both parties.

WARNING!

NO INSPECTIONS WILL BE PERFORMED UNTIL THE INSPECTOR CALLS AND AN ARRANGEMENT IS MADE.

By completing the boxes below, I, the contractor, acknowledge that I have notified the homeowner not to take off work or wait for an inspection. The work is "ready" for an inspection; however, the actual scheduled date has not been confirmed. The inspector will contact the homeowner directly to schedule a date and time for access. If, after several unsuccessful attempts to contact the homeowner, the inspection request will be cancelled and you will need to re-schedule the inspection.

Homeowner Name: _____ Homeowner Best Contact Phone: _____



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6. CO detector requirements-Per interpretation on DOI, R315

INFORMAL CODE INTERPRETATION

**NC Department of Insurance
Office of the State Fire Marshal - Engineering Division
1202 Mail Service Center, Raleigh, NC 27699-1202
919-661-5880**

R315 - Carbon Monoxide Alarms in One-and-Two-Family Dwellings and Townhouses

Code: 2012 Residential Code
Section: R315

Date: July 2, 2012

The 2012 NC Residential Code, Section R315 requires the installation of carbon monoxide alarms in new and existing one-and-two-family dwellings and townhouses as follows:

R315.1 Carbon monoxide alarms. *In new construction, dwelling units shall be provided with an approved carbon monoxide alarm installed outside of each separate sleeping area in the immediate vicinity of the bedroom(s) as directed by the alarm manufacturer.*

R313.2 Where required-existing dwellings. *In existing dwellings, where interior alterations, repairs, fuel-fired appliance replacements, or additions requiring a permit occurs, or where one or more sleeping rooms are added or created, carbon monoxide alarms shall be provided in accordance with Section 315.1.*

R313.3 Alarm requirements. *The required carbon monoxide alarms shall be audible in all bedrooms over background noise levels with all intervening doors closed. Single station carbon monoxide alarms shall be listed as complying with UL 2034 and shall be installed in accordance with this code and the manufacturer's installation instructions.*

Question 1:

What work and/or permit issuance triggers the installation of carbon monoxide alarms in an existing residence?

Answer:

Compliance with R315.2 is triggered by any of the following:

1. The issuance of a permit, requiring compliance with the NC Residential Code, for interior alterations or repairs, or
2. The issuance of a permit, requiring compliance with the NC Residential Code, for a building addition, or
3. The issuance of any permit (building or trades) for the installation and/or replacement of a fuel-fired appliance, or
4. The addition or creation of one or more sleeping rooms

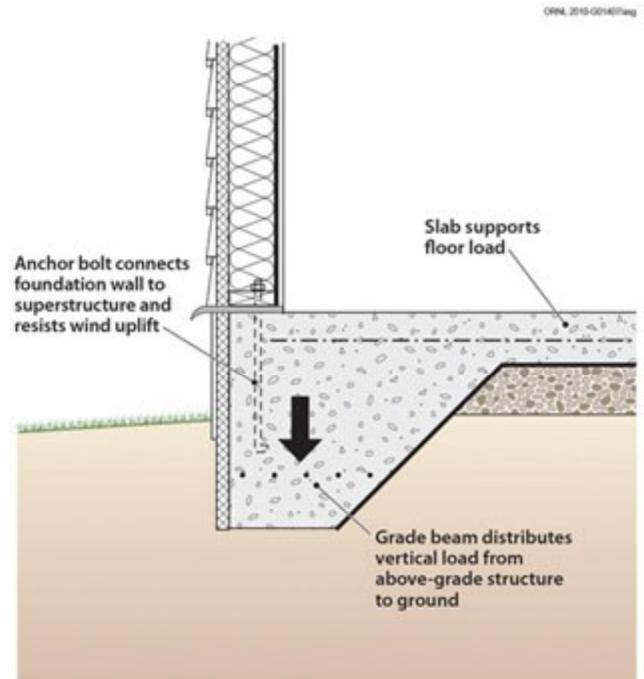


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7. Siding clearances from grade - 6" rule R317



Structural Components of Slab-on-Grade Foundation with Grade Beam

8. Securing porch post at base R407.3

R407.3 Structural requirements. The columns shall be restrained to prevent lateral displacement at the top and bottom ends. Wood columns shall not be less in nominal size than 4 inches by 4 inches (102 mm by 102 mm). Steel columns shall not be less than 3-inch-diameter (76 mm) Schedule 40 pipe manufactured in accordance with ASTM A 53 Grade B or approved equivalent.



WE STRIVE TO PROVIDE EXCELLENT PLAN REVIEW AND INSPECTIONS WITH OUTSTANDING CUSTOMER SERVICE

Approved By Lon McSwain Date 10/01/2014